

WHAT IS CLAIMED IS:

- 1           1.       A method for data synchronization, comprising:  
2           determining a first identifier for a portion of data at a first source;  
3           determining a second identifier for a portion of corresponding data at a second  
4 source;  
5           comparing the first and second identifiers; and  
6           when the first and second identifiers do not match, replacing the portion of  
7 corresponding data at the second source with the portion of data at the first source.
  
- 1           2.       The method of claim 1, further comprising:  
2           when the first and second identifiers do match, determining that the portion of  
3 data at the first source and the portion of corresponding data at the second source are  
4 identical.
  
- 1           3.       The method of claim 1, wherein the first and second identifiers comprise  
2 hash keys.
  
- 1           4.       The method of claim 3, further comprising:  
2           generating the hash keys using a single hash key function.
  
- 1           5.       The method of claim 3, further comprising:  
2           generating the hash keys using multiple hash key functions.
  
- 1           6.       The method of claim 1, further comprising:  
2           generating the first identifier by performing a first function on the portion of data  
3 at the first source; and

4           generating the second identifier by performing the first function on the portion of  
5   corresponding data at the second source.

1           7.       The method of claim 1, wherein determining the first identifier further  
2   comprises:  
3           generating a first value by performing a first function on the portion of data at the  
4   first source;  
5           generating a second value by performing a second function on the portion of data  
6   at the first source; and  
7           generating the first identifier by combining the first value and the second value.

1           8.       The method of claim 7, wherein determining the second identifier further  
2   comprises:  
3           generating a third value by performing the first function on the portion of  
4   corresponding data at the second source;  
5           generating a fourth value by performing the second function on the portion of  
6   corresponding data at the second source; and  
7           generating the second identifier by combining the third value and the fourth  
8   value.

1           9.       The method of claim 1, wherein determining the first identifier further  
2   comprises:  
3           generating a first value by performing a first function on the portion of data at the  
4   first source; and  
5           generating the first identifier by performing a second function on the first value.

1           10.    The method of claim 9, wherein determining the second identifier further  
2 comprises:  
3           generating a second value by performing the first function on the portion of  
4 corresponding data at the second source; and  
5           generating the second identifier by performing the second function on the second  
6 value.

1           11.    The method of claim 1, wherein the first identifier for the portion of data  
2 at the first source is determined when the portion of data at the first source is updated and  
3 the second identifier for the portion of corresponding data at the second source is  
4 determined when the portion of corresponding data at the second source is updated.

1           12.    The method of claim 1, wherein the first identifier and the second  
2 identifier are determined when a determination is made that it is time to synchronize data  
3 at the first source and the second source.

1           13.    The method of claim 1, wherein the first identifier and the second  
2 identifier are determined periodically.

1           14.    An article of manufacture for data synchronization, wherein the article of  
2 manufacture is capable of causing operations to be performed, the operations comprising:  
3           determining a first identifier for a portion of data at a first source;  
4           determining a second identifier for a portion of corresponding data at a second  
5 source;  
6           comparing the first and second identifiers; and  
7           when the first and second identifiers do not match, replacing the portion of  
8 corresponding data at the second source with the portion of data at the first source.

1           15.    The article of manufacture of claim 14, wherein the operations further  
2 comprise:  
3           when the first and second identifiers do match, determining that the portion of  
4 data at the first source and the portion of corresponding data at the second source are  
5 identical.

1           16.    The article of manufacture of claim 14, wherein the first and second  
2 identifiers comprise hash keys.

1           17.    The article of manufacture of claim 16, wherein the operations further  
2 comprise:  
3           generating the hash keys using a single hash key function.

1           18.    The article of manufacture of claim 16, wherein the operations further  
2 comprise:  
3           generating the hash keys using multiple hash key functions.

1           19.    The article of manufacture of claim 14, wherein the operations further  
2 comprise:  
3           generating the first identifier by performing a first function on the portion of data  
4 at the first source; and  
5           generating the second identifier by performing the first function on the portion of  
6 corresponding data at the second source.

1           20.    The article of manufacture of claim 14, wherein the operation for  
2 determining the first identifier further comprises:  
3           generating a first value by performing a first function on the portion of data at the  
4 first source;

5           generating a second value by performing a second function on the portion of data  
6   at the first source; and  
7           generating the first identifier by combining the first value and the second value.

1           21.    The article of manufacture of claim 20, wherein the operation for  
2   determining the second identifier further comprises:  
3           generating a third value by performing the first function on the portion of  
4   corresponding data at the second source;  
5           generating a fourth value by performing the second function on the portion of  
6   corresponding data at the second source; and  
7           generating the second identifier by combining the third value and the fourth  
8   value.

1           22.    The article of manufacture of claim 14, wherein the operation for  
2   determining the first identifier further comprises:  
3           generating a first value by performing a first function on the portion of data at the  
4   first source; and  
5           generating the first identifier by performing a second function on the first value.

1           23.    The article of manufacture of claim 22, wherein the operation for  
2   determining the second identifier further comprises:  
3           generating a second value by performing the first function on the portion of  
4   corresponding data at the second source; and  
5           generating the second identifier by performing the second function on the second  
6   value.

1           24.    The article of manufacture of claim 14, wherein the first identifier for the  
2   portion of data at the first source is determined when the portion of data at the first source  
3   is updated and the second identifier for the portion of corresponding data at the second  
4   source is determined when the portion of corresponding data at the second source is  
5   updated.

1           25.    The article of manufacture of claim 14, wherein the first identifier and the  
2   second identifier are determined when a determination is made that it is time to  
3   synchronize data at the first source and the second source.

1           26.    The article of manufacture of claim 14, wherein the first identifier and the  
2   second identifier are determined periodically.

1           27.    A system for data synchronization, comprising:  
2       means for determining a first identifier for a portion of data at a first source;  
3       means for determining a second identifier for a portion of corresponding data at a  
4   second source;  
5       means for comparing the first and second identifiers; and  
6       means for, when the first and second identifiers do not match, replacing the  
7   portion of corresponding data at the second source with the portion of data at the first  
8   source.

1           28.    The system of claim 27, further comprising:  
2       means for, when the first and second identifiers do match, determining that the  
3   portion of data at the first source and the portion of corresponding data at the second  
4   source match.

1           29.    The system of claim 27, wherein the first and second identifiers comprise  
2 hash keys.

1           30.    The system of claim 29, further comprising:  
2 means for generating the hash keys using a single hash key function.

1           31.    The system of claim 29, further comprising:  
2 means for generating the hash keys using multiple hash key functions.

1           32.    The system of claim 27, further comprising:  
2 means for generating the first identifier by performing a first function on the  
3 portion of data at the first source; and  
4 means for generating the second identifier by performing the first function on the  
5 portion of corresponding data at the second source.

1           33.    The system of claim 27, wherein determining the first identifier further  
2 comprises:  
3 means for generating a first value by performing a first function on the portion of  
4 data at the first source;  
5 means for generating a second value by performing a second function on the  
6 portion of data at the first source; and  
7 means for generating the first identifier by combining the first value and the  
8 second value.

1           34.    The system of claim 33, wherein determining the second identifier further  
2 comprises:  
3 means for generating a third value by performing the first function on the portion  
4 of corresponding data at the second source;

5 means for generating a fourth value by performing the second function on the  
6 portion of corresponding data at the second source; and  
7 means for generating the second identifier by combining the third value and the  
8 fourth value.

1 35. The system of claim 27, wherein determining the first identifier further  
2 comprises:

3 means for generating a first value by performing a first function on the portion of  
4 data at the first source; and

5 means for generating the first identifier by performing a second function on the  
6 first value.

1 36. The system of claim 35, wherein determining the second identifier further  
2 comprises:

3 means for generating a second value by performing the first function on the  
4 portion of corresponding data at the second source; and

5 means for generating the second identifier by performing the second function on  
6 the second value.

1 37. The system of claim 27, wherein the first identifier for the portion of data  
2 at the first source is determined when the portion of data at the first source is updated and  
3 the second identifier for the portion of corresponding data at the second source is  
4 determined when the portion of corresponding data at the second source is updated.

1 38. The system of claim 27, wherein the first identifier and the second  
2 identifier are determined when a determination is made that it is time to synchronize data  
3 at the first source and the second source.

1           39.    The system of claim 27, wherein the first identifier and the second  
2    identifier are determined periodically.